PATENT
Customer Number 22,852
Attorney Docket No. 7040.0115.00

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	)	
	)	
Maurizio BOIOCCHI et al.	)	
	)	
Serial No.: Not yet assigned	)	Group Art Unit: Not yet assigned
	)	
Filed: December 28, 2001	)	Examiner: Not yet assigned
	)	
For: HIGH-PERFORMANCE TYRE FOR A MOTOR VEHICLE	)	

Assistant Commissioner for Patents
Washington, DC 20231

Sir:

PRELIMINARY AMENDMENT

Prior to the examination of the above-captioned application, please amend this application as follows:

IN THE SPECIFICATION:

Please amend the specification, as follows:

Add two section headings, a section subheading, and a paragraph immediately after the title HIGH-PERFORMANCE TYRE FOR A MOTOR VEHICLE, as follows:

--CROSS-REFERENCE TO RELATED APPLICATIONS

Applicants claim the right of priority under 35 U.S.C. § 119(a) - (d) based on patent application No. MI99A 001447, filed June 30, 1999, in the Italian Patent Office; additionally,

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

Applicants claim the right of priority under 35 U.S.C. § 119(a) - (d) based on patent application No. PCT/EP00/05994, filed June 28, 2000, in the European Patent Office; further, Applicants claim the benefit under 35 U.S.C. § 119(e) based on prior-filed, copending provisional application No. 60/155,142, filed September 22, 1999, in the U.S. Patent and Trademark Office; the contents of all of which are relied upon and incorporated herein by reference.

BACKGROUND OF THE INVENTION

Field of the Invention--

Page 1, line 3, add section subheading --Description of the Related Art-- and the paragraphs below prior to the start of the paragraph beginning "In the present description and in the claims"

--British Patent Document No. GB 1,212,795 discloses a radial tyre having a tread provided with a central circumferential groove, two circumferential side grooves, one on each side of the central groove, disposed substantially equidistantly between the central groove and the edges of the tread, and transverse grooves extending from opposite side of the central groove toward, but not as far as, one of the side grooves.

In said tread, the circumferential side grooves are flanked on both sides by circumferential ribs.

The invention disclosed by this document has the aim of reducing the stiffness of the tread.

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1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
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U.S. Patent No. 4,446,901 discloses a heavy-duty pneumatic radial tyre comprising a carcass of a substantially radial construction composed of at least one rubberized ply layer containing cords embedded therein and a belt superimposed about said carcass for stiff reinforcement beneath a tread and composed of at least two rubberized ply layers each containing metal cords embedded therein, said metal cords of which being crossed with each other at a relatively small angle with respect to the circumferential direction of the tyre, and said tread being provided with a plurality of continuous or discontinuous zigzag circumferential ribs defined along the widthwise direction of the tyre by at least three substantially zigzag main grooves extending circumferentially of said tread, said main grooves comprising one or a pair of central circumferential grooves located at a substantially central region of said tread and a pair of outside circumferential grooves defining each of the outermost ribs of said tread. In this tyre, the central circumferential groove has such a symmetrical cross-sectional shape with respect to a centerline of said groove that an inclination angle of a groove wall of said groove with respect to a normal line drawn from an outer surface of said tread and passing an edge of said groove in the cross-section perpendicular to said groove wall is made relatively large in a region extending from the groove bottom to at least 50% of groove depth, and the outside circumferential groove has such an unsymmetrical cross-sectional shape with respect to a centerline of said groove that an inclination angle of an outer groove wall of said groove in the rotation axial direction of the tyre is made relatively large, and an inclination angle of an inner groove wall of said groove in a region extending from the outer surface of said tread to at least 10% of groove depth is made smaller than that of said outer groove wall.

U.S. Patent No. 4,773,459 discloses a low-section tyre having a tread pattern comprising a plurality of main grooves substantially extending in a circumferential direction of the tyre in

Application No. 10/564,744
Reply to Office Action of March 6, 2009

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

parallel to each other and a plurality of transverse grooves intersecting the main circumferential grooves at an inclination angle also in parallel to each other, said transverse grooves are formed in upwardly-sloping, raised-bottom fashion along a longitudinal direction thereof between two main grooves, bottoms of said transverse grooves are raised in a substantially equilateral-triangle shape in cross-section in such a way that a depth of said transverse grooves is shallowest at substantially the middle portion of each transverse groove and the deepest at the bottom of said main circumferential groove.--

Page 1, line 3, add section heading --SUMMARY OF THE INVENTION-- prior to the start of the paragraph beginning "In the present description and in the claims"

Page 1, lines 7-17, delete, in its entirety, the paragraph beginning "A first aspect of the invention"

Page 1, lines 18-19, delete, in its entirety, the paragraph beginning "Advantageously, said continuous track terminates"

Page 1, lines 20-23, delete, in its entirety, the paragraph beginning "Preferably, said continuous lateral wall"

Page 1, line 24, add the paragraph below prior to the paragraph beginning "In one embodiment"

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1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
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--None of said documents recognizes the problem of the "saw tooth" wear arising in a tyre, particularly on the edges of the transverse grooves of the shoulders. This problem has been resolved by a high-performance tyre according to claim 1.--

Page 2, lines 22-24, delete, in its entirety, the paragraph beginning "Preferably, said blocks of said central rows"

Page 2, line 25 - page 3, line 2, delete, in its entirety, the paragraph beginning "A second aspect of the invention"

Page 3, lines 3-14, delete, in its entirety, the paragraph beginning "A third aspect of the invention"

Page 3, lines 15-20, delete, in its entirety, the paragraph beginning "A fourth aspect of the invention"

Page 4, lines 3-6, amend the paragraph, beginning "In a further aspect", as follows:

Moreover, the invention makes it possible to control certain design characteristics of a tyre, such as the possibility of optimizing the flow and consequent distribution of the tread compound along the crown of the tyre.

Page 4, lines 7-13, amend the paragraph, beginning "In a further aspect", as follows:

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
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Therefore, the invention makes it possible to control certain behaviour characteristics of a tyre, particularly a high-performance tyre, such as the possibility of controlling the wear degree and rate of the tread band in use, as well as the roadholding in both dry and wet conditions, the plastic comfort and/or quietness of running in severe conditions of use at high running speeds.

Page 4, line 14, add section heading --BRIEF DESCRIPTION OF THE DRAWINGS-- prior to the start of the paragraph beginning "Further characteristics and advantages"

Page 5, line 4, add section heading --DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS-- prior to the start of the paragraph beginning "Fig. 1 shows a high-performance tyre 1"

Add a new page 21 after the claims, adding the following ABSTRACT OF THE DISCLOSURE. A new, separate page 21 including the ABSTRACT OF THE DISCLOSURE is enclosed.

--ABSTRACT OF THE DISCLOSURE

A high-performance tyre for a motor vehicle includes a tread having an overall width and including first and second circumferential grooves. The circumferential grooves separate a central region from two lateral shoulder regions. The central region includes central blocks and the shoulder regions comprise shoulder blocks. Each of the circumferential grooves is adjacent, on a side further from the central region, to a respective continuous track from which branch

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
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transverse grooves delimiting respective shoulder blocks. Each continuous track terminates in a continuous lateral wall of the respective circumferential groove. The continuous lateral wall of at least one circumferential groove has a profile, in a radial plane, which is inclined more than a profile of a facing lateral wall of the respective circumferential groove. The central blocks are separated from each other by transverse grooves having a bottom wall with a shaped profile of variable depth.--

IN THE CLAIMS:

Please cancel, without prejudice or disclaimer, claims 2-15, and add new claims 16-25, as follows:

--16. (new) A high-performance tyre for a motor vehicle, comprising a tread having an overall width and comprising first and second circumferential grooves;

wherein the circumferential grooves separate a central region from two lateral shoulder regions, wherein the central region comprises central blocks, and wherein the shoulder regions comprise shoulder blocks;

wherein a sum of widths of the lateral shoulder regions is less than or equal to 60% of the overall width, and wherein the width of each of the lateral shoulder regions is not less than 20% of the overall width;

wherein each of the circumferential grooves is adjacent, on a side further from the central region, to a respective continuous track from which branch transverse grooves delimiting respective shoulder blocks, wherein each continuous track terminates in a continuous lateral wall of the respective circumferential groove, and wherein the continuous lateral wall of at least one

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GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
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circumferential groove has a profile, in a radial plane, which is inclined more, with respect to a centerline axis of the respective circumferential groove, than a profile of a facing lateral wall of the respective circumferential groove; and

wherein the central blocks are separated from each other by transverse grooves having a bottom wall with a shaped profile of variable depth.

17. (new) The tyre of claim 16, wherein the continuous lateral wall of the at least one circumferential groove is inclined at an angle between about 14° and about 24° with respect to the centerline axis of the respective circumferential groove and comprises a first bottom radius between about 2 mm and about 5 mm, and wherein the facing lateral wall of the respective circumferential groove is inclined at an angle between about 3° and about 10° with respect to the centerline axis of the respective circumferential groove and comprises a second bottom radius between about 4 mm and about 7 mm.

18. (new) The tyre of claim 17, wherein the continuous lateral wall of the at least one circumferential groove is inclined at an angle of about 19° with respect to the centerline axis of the respective circumferential groove and comprises a first bottom radius of approximately 3.5 mm, and wherein the facing lateral wall of the respective circumferential groove is inclined at an angle of about 5° with respect to the centerline axis of the respective circumferential groove and comprises a second bottom radius of about 5 mm.

19. (new) The tyre of claim 16, wherein at least one of the shoulder blocks comprises a sipe which is approximately transverse with respect to an equatorial plane of the tyre.

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HENDERSON
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1300 I Street, NW
Washington, DC 20005
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Fax 202.408.4400
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20. (new) The tyre of claim 16, wherein the central region comprises at least a first and a second circumferential row of central blocks, wherein the first and second circumferential row of central blocks is delimited by either the first or second circumferential groove and at least one other circumferential groove.

21. (new) The tyre of claim 20, wherein the central blocks are approximately rhomboid-shaped.

22. (new) The tyre of claim 20, wherein the central blocks are approximately cusp-shaped.

23. (new) The tyre of claim 16, wherein the central region comprises at least a first and a second circumferential row of central blocks and a third circumferential row of inner central blocks, wherein the third circumferential row of inner central blocks is adjacent to a first annular projection, wherein the first circumferential row of central blocks is delimited by the first circumferential groove and a third circumferential groove, wherein the second circumferential row of central blocks is delimited by the second circumferential groove and a fourth circumferential groove, and wherein the third circumferential row of inner central blocks and the first annular projection are delimited by the third circumferential groove and the fourth circumferential groove.

Application No. 10/554,694

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HENDERSON
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1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
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24. (new) The tyre of claim 23, wherein the inner central blocks are approximately semiparabolic-shaped.

25. (new) A high-performance tyre for a motor vehicle, comprising a tread comprising first and second circumferential grooves, wherein the circumferential grooves separate a central region from two lateral shoulder regions, wherein the central region comprises central blocks, and wherein the shoulder regions comprise shoulder blocks;

wherein the shoulder blocks in each lateral shoulder region are separated from each other by transverse grooves, and wherein the shoulder blocks in each lateral shoulder region are joined at one end by a continuous track forming a continuous lateral wall of the respective circumferential groove;

wherein each of the circumferential grooves is adjacent, on a side further from the central region, to a respective continuous track from which branch transverse grooves delimiting respective shoulder blocks, wherein each continuous track terminates in a continuous lateral wall of the respective circumferential groove, and wherein the continuous lateral wall of at least one circumferential groove has a profile, in a radial plane, which is inclined more, with respect to a centerline axis of the respective circumferential groove, than a profile of a facing lateral wall of the respective circumferential groove; and

wherein the central blocks are separated from each other by transverse grooves having a bottom wall with a shaped profile of variable depth.--

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

REMARKS

Applicant submits this Preliminary Amendment together with a patent application under 37 C.F.R. § 1.53(b).

In this Preliminary Amendment, Applicant adds section headings, section subheadings, and an Abstract of the Disclosure to conform to U.S. practice. Additionally, Applicant adds claims to the right of priority and benefit. Further, Applicant cancels, without prejudice or disclaimer, claims 2-15, and adds new claims 16-25, which include the same subject matter as the original claims, to improve clarity. The originally-filed specification, claims, abstract, and drawings fully support the amendments to the specification and the addition of new claims 16-25. No new matter was introduced.

If there is any fee due in connection with the filing of this Preliminary Amendment, please charge the fee to our Deposit Account No. 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER, L.L.P.

Dated: December 28, 2001

By:_____

Lawrence F. Galvin
Reg. No. 44,694

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

ABSTRACT OF THE DISCLOSURE

A high-performance tyre for a motor vehicle includes a tread having an overall width and including first and second circumferential grooves. The circumferential grooves separate a central region from two lateral shoulder regions. The central region includes central blocks and the shoulder regions comprise shoulder blocks. Each of the circumferential grooves is adjacent, on a side further from the central region, to a respective continuous track from which branch transverse grooves delimiting respective shoulder blocks. Each continuous track terminates in a continuous lateral wall of the respective circumferential groove. The continuous lateral wall of at least one circumferential groove has a profile, in a radial plane, which is inclined more than a profile of a facing lateral wall of the respective circumferential groove. The central blocks are separated from each other by transverse grooves having a bottom wall with a shaped profile of variable depth.

Docket #: 0104-1004

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

APPENDIX TO PRELIMINARY AMENDMENT DATED DECEMBER 28, 2001

Amendments to the Specification

Please amend the paragraph at page 4, lines 3-6, as follows:

[In a further aspect] Moreover, the invention [relates to methods and tyres which] makes it possible to control certain design characteristics of a tyre, such as the possibility of optimizing the flow and consequent distribution of the tread compound along the crown of the tyre.

Please amend the paragraph at page 4, lines 7-13, as follows:

[In a further aspect] Therefore, the invention [relates to methods and tyres which] makes it possible to control certain behaviour characteristics of a tyre, particularly a high-performance tyre, such as the possibility of controlling the wear degree and rate of the tread band in use, as well as the roadholding in both dry and wet conditions, the plastic comfort and/or quietness of running in severe conditions of use at high running speeds.

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
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